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THIRD EDITION, Supplement 2

CHECKING THE NET CONTENTS OF PACKAGED GOODS



*as adopted by the National Conference
on Weights and Measures*

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NIST HANDBOOK 133
THIRD EDITION
SUPPLEMENT 2

CHECKING THE NET CONTENTS OF PACKAGED GOODS

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Foreword

This supplement compiles the latest amendments adopted at the Annual Meeting in 1991 by the National Conference on Weights and Measures. It is the second supplement to be issued to the Third Edition of Handbook 133. The first supplement, which was published in September 1990, covered changes made to Handbook 133 in 1989 and 1990.

The National Institute of Standards and Technology (NIST) has a statutory responsibility for "cooperation with the States in securing uniformity of weights and measures laws and methods of inspection." In partial fulfillment of this responsibility, the Institute is pleased to publish these recommendations of the National Conference.

Reason for and Use of This Supplement

Only minor additions and revisions to NIST (formerly National Bureau of Standards - NBS) Handbook 133, Third Edition, "Checking the Net Contents of Packaged Goods," were adopted by the National Conference on Weights and Measures in 1991. This supplement therefore consists of change pages to the Third Edition, as amended by the 1990 Supplement.

A list of changes that have been made to Handbook 133 and adopted by the Conference are listed on the next page as "Addendum - 1991;" the change pages that follow also include a few editorial changes necessitated by the conversion to a 2-column format. Please insert the "Addendum - 1991" page in front of page v and replace pages 3-45 through 3-58 in the Third Edition with the change pages.

In keeping with the move toward the primary use of metric measurements as recommended in the Omnibus Trade and Competitiveness Act of 1988, the National Conference on Weights and Measures Laws and Regulations Committee will introduce proposals to the voting membership in the 1991-92 work year that will add metric examples before customary unit examples wherever possible.

Addendum 1991

Section	Action	Page
3.18.1.	Added "in this Handbook" to the sentence that states where new gray area determinations will be printed.	3-46
3.18.2.	Amended title to include "and Size of Gray Areas."	3-47
3.18.2.a.	Rewrote section to make it clear that packaging materials must be carefully cleaned before weighing tare and to specify a zero gray area for bacon packages with no free-flowing liquid inside as well as packages with no absorbent materials.	3-47
3.18.2.b.	Rewrote this section to clarify the definition of "luncheon meats" and make the same types of changes noted above for 3.18.2.a.	3-48
3.18.2.d.	Amended this section to establish a definition of "fresh poultry" for net weight determinations and make it clear that the gray area should only be applied to raw, fresh poultry in retail packages when wet tare tests are conducted.	3-48
3.18.3.e.(1)	Clarified procedures for cleaning tare materials. Also added a paragraph on the repackaging of packages opened for tare determination.	3-49
3.18.3.e.(2)	Added a paragraph on procedures to follow when there is no free-flowing liquid or absorbent materials in contact with the product.	3-49
3.18.3.f.(1)	Expanded title to include bacon, sausage, and luncheon meats with no free-flowing liquid or absorbent materials.	3-50
3.18.3.g.(1)	Expanded the scope of the paragraph to cover the testing of bacon, sausage, or luncheon meats with no free-flowing liquid or absorbent tare materials.	3-51
3.18.3.h.(3)	Changed the title and added a sentence to indicate that the information listed in the section may be proprietary and not always available from the packer.	3-53

For example, if a moisture loss of 3% is found for a 2-lb lot of flour, this is a weight loss of 0.06 lb (2 lb x 3 x 0.01).

If the moisture loss (in item 15) is equal to or larger than the amount of shortage found for the average error (in item 9), then the lot can be accepted. If the moisture loss is less than the average shortage, then the lot should be rejected and further enforcement action taken.

For example, assume the average package error for a 2-lb lot of packages is 0.05 lb. If a moisture loss of 3% is found, the weight loss of 0.06 lb (2 lb x 0.03) is more than the amount of shortage (0.05 lb), therefore, the lot would pass the average requirement. Record this in Item 16.

Similarly, if any individual minus package errors exceed the MAV, placing the lot into the gray area, add the amount of weight lost due to moisture loss (Item 15) to the largest individual minus package error (recorded in Item 10). If the resulting package error is still larger than the MAV (see Table 3-3, third column), the lot should be rejected. If the resulting package error is smaller than the MAV, the lot should be accepted. Record this in Item 17.

For example, if the largest individual package error for a lot of 2-lb packages is 0.08 lb, this puts the lot into the gray area, even if the average package error is zero or plus. If a moisture loss of 3% is found, the weight loss of 0.06 lb added to the individual package error makes the package error -0.02 lb (-0.08 lb + 0.06 lb). The MAV for 2-lb package lots is -0.07 lb, so this lot passes if the average is zero or plus.

3.17.4. Moisture Content Laboratory Test

a. Equipment

Forced-air (or equivalent) laboratory convection oven

Desiccator and drying agent

Analytical balance

Drying dishes with covers

Calibrated thermometer

Tongs or insulated gloves

b. Procedure

1. Set oven to 130 + or - 3 °C. Let temperature stabilize.

2. Weigh at least three empty drying dishes and covers for each lot of flour to be tested (that is, run a triplicate).
3. Weigh covered dishes with about 2 g flour in each one.
4. Uncover dishes, place them in the oven.
5. Start timing for one hour from the time the temperature returns to 130 °C.
6. Cover the dishes, transfer them to a desiccator, and weigh after the dishes return to room temperature.
7. Compute the moisture content (MC) (%) as follows:

$$MC = [(FWBD - FWAD) \div FWBD] \times 100$$

where: FWBD = flour weight before drying
FWAD = flour weight after drying

Do the calculation within the parentheses first. Then do the calculation within the brackets. Then multiply by 100.

8. Average the results on three dishes for each lot.

Exchange samples with flour milling plant in order to determine whether their laboratory results are equivalent to yours.

3.18. Meat and Poultry from Federally-Inspected Plants

3.18.1. Background for Administrator and Inspector

These test procedures are for meat and poultry coming from Federally-inspected plants. If inspectors check packages at wholesale or retail, use Category A sampling plans from H-133, and either unused or dried used tare (see Section 3.18.3.5. for definition), then there is no gray area; the tested packages are either in or out of compliance. If a jurisdiction uses wet tare (see Section 2.11. Tare, for definition), there is a "gray" or "no-decision" area. The gray area is not a tolerance. If packages are found in the gray or no-decision area, they neither automatically pass nor fail the test. If lots are tested and found inside the gray area, they are not necessarily in compliance. The jurisdiction will have to do more work to determine the final status of the lot.

Jurisdictions wishing to perform wet tare tests upon products for which no gray area has yet been deter-

mined will need to permit "reasonable variations" until a gray area has been determined for that product. New gray area determinations will be printed in this Handbook and in the Federal Register. Contact the USDA Regional Office for a listing of the products that have gray areas, as well as the size of their gray area percentages.

The size of the gray area is defined as a percentage of the labeled weight that extends downward from the labeled weight.

a. Enforcement action relative to the gray area. - The overall objective is to test packages as closely as possible to a routine test. However, one difference will immediately be apparent.

Category A (Table 2-2) sampling procedures must be employed at retail or wholesale locations when testing packages put up in a Federally-inspected plant (because a test similar to a Category B test has already been run on the packages at the plant level).

Category B (Table 2-5) sampling procedures may be used when testing at the packaging plant.

b. "Dry Tare" Jurisdictions. - For jurisdictions that normally utilize unused tare to test meat and poultry packaged at a retail store, it will be necessary to simulate unused tare for packages from Federally-inspected plants by drying out absorbent materials (if any) comprising the used tare and to determine a "dried used tare."

No additional information will be needed other than the results of a Category A test using "dried used tare" before taking enforcement action on lots.

c. "Wet Tare" Jurisdictions. - For jurisdictions that normally use wet tare, if the package lots are found short weight with wet tare tests, but fall in the "gray area," it is necessary to collect additional information to determine whether or not the lot complies with net weight requirements.

If the package lots are found short weight using a Category A sampling plan and wet tare, it will first be necessary to determine whether the lot is inside or outside the gray area. If the lot falls in the gray area,

additional information will have to be collected before reaching a final determination whether the lot is in or out of compliance. Of course, nothing additional will be needed for lots that fall outside the gray area. Appropriate enforcement should be taken on packages found short weight and outside the gray area.

A "hold" or a "stop sale" order should be put on packages found short weight, but inside the gray area, until their status can be determined. If this is not possible, the strongest legal remedy should be sought if the product cannot be held and subsequent tests or information indicates that the lot is out of compliance.

d. Which packages to consider as part of the lot being tested. - Ordinarily, an inspector taking a sample from retail will record lot codes, but will not select the lot for test by sorting the packages by lot code. He or she will simply select a sample from all packages of the same brand and style and size on the shelf or in the stock room. If short weight is found and the results are in the gray area (wet tare only), follow-up investigation requires sorting the lot codes at this point.

e. Category A sampling plans must be used for all tests conducted outside the Federally-inspected plant. - See Section 3.18.3. for details. The discussion below is based on using these procedures and on recording the "package errors"--how much and in what direction the actual package weight differs from the labeled weight. Thus, if a package labeled 2 lb actually weighs 2.010 lb, its package error is +0.010 lb. Similarly, the "average package error" is the difference between the average weight of the sampled packages and the labelled package weight. If the average of 10 package weights is 1.994 lb, the average package error is $(1.994 - 2.000 \text{ lb}) = -0.006 \text{ lb}$.

f. Package lots must meet the average requirement and the individual requirement. - When checking packages not subject to possible moisture loss and using Category A sampling plans, two requirements must be met:

(1) The average net weight of the sample must equal or exceed the labeled net weight minus an adjustment factor called T ,¹ which represents the possible deviation between the sample average and the actual lot average.

¹ See the general discussion of T in Chapter 2 and in NCWM Training Module 10.

If a jurisdiction applies either unused or used dried tare to meat and poultry packages, this is sufficient to determine whether the average requirement has been met. See Figure 3-15.

If a jurisdiction uses wet tare, an amount defined by the gray area must be considered before determining non-compliance of the lot under test without further information or data collection. See Figure 3-16.

The size of the gray area has been set at 3% of the average labeled weight for raw, fresh poultry, and 2-1/2% of the labeled weight for franks and hot dogs (whether made from meat or poultry).

(2) The number of packages that may fall below the MAV is specified in Category A sampling plans according to the sample size. Ordinarily, the inspector uses Table 2-8 to look up the MAV for packages labeled by weight.

USDA Meat and Poultry Inspection uses a set of MAV's for products under its supervision. These are given in Table 2-12. Use Table 2-12 for all products coming from a Federally-inspected plant.

The size of the gray area must be added to the individual package limits specified in Table 2-12 when the jurisdiction uses wet tare.

g. **What to do when the lot is in the gray area ("Wet Tare" Jurisdictions Only).** - Contact the USDA Regional Director or the Inspector-in-charge at the packaging plant (see Section 3.18.3.h.) to determine what information (either USDA's or the plant's) is available at the plant to clarify the status of the lot in question. General guidelines are given in Section 3.18.3.h.

The jurisdiction also has the option of visiting the plant to collect its own data or, if the plant is located in another jurisdiction, asking the weights and measures officials in that jurisdiction to collect the necessary data. (Permission must be requested to test at the plant.)

3.18.2. Types of Products and Size of Gray Areas

a. **Bacon.** - The gray area is zero for bacon if there is no free-flowing liquid or absorbent materials in contact with the product and the package is cleaned of clinging material prior to tare weight determination; when there is no free-flowing liquid or absorbent materials in packaged bacon, wet tare and dried used tare are equivalent.

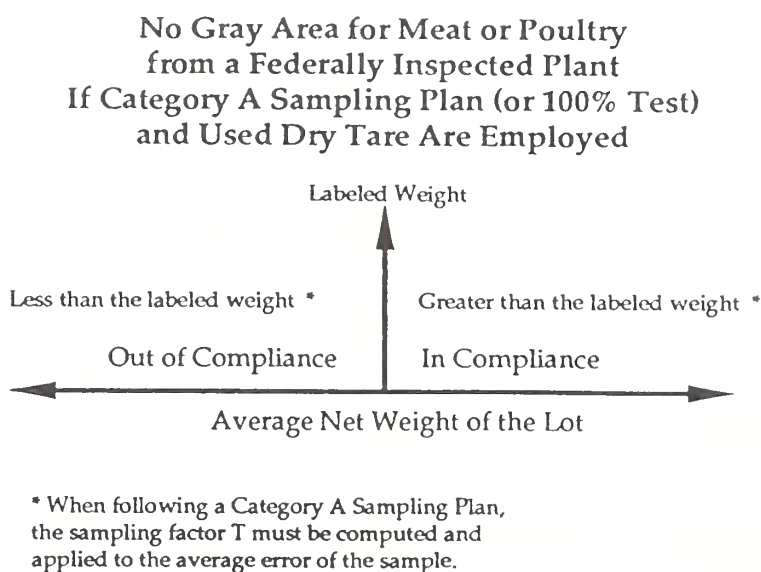


Figure 3-15.

Gray Area for Poultry or Hot Dogs from a Federally Inspected Plant Using Wet Tare

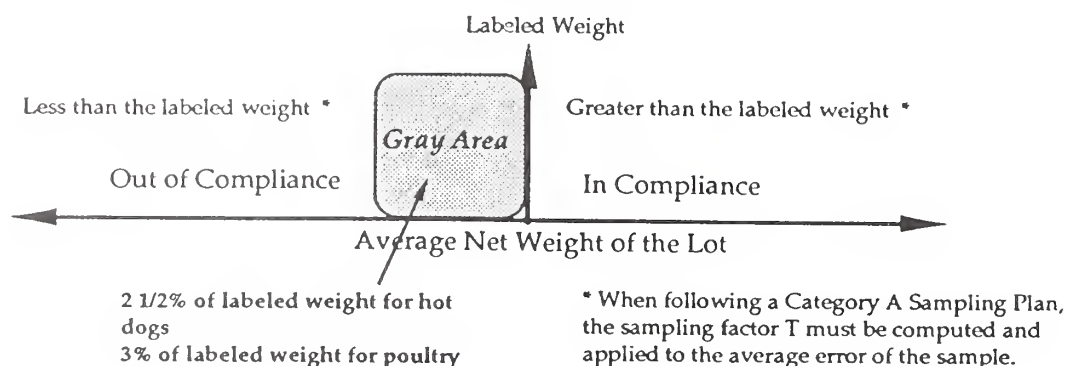


Figure 3-16.

Whether you are following wet tare or dry tare procedures, wipe all packaging materials clean of fat and clinging moisture before weighing tare.

b. Fresh Sausage and Luncheon Meats. - Luncheon meats comprise any cooked sausage product, loaves, jellied products, cured products, and any sliced meat styled for placing on bread or similar products. This category of product does not include whole hams, briskets, roasts, turkeys, or chickens requiring further preparation to be made into ready-to-eat sliced product.

When there is no free-flowing liquid and no absorbent materials used in the package, there is zero gray area for fresh sausage or luncheon meats. Whether you are following wet tare or dry tare procedures, carefully clean and wipe all tare materials of fat and clinging moisture. Only when there is no free-flowing liquid inside the package and there are no absorbent materials in contact with the product, wet tare and dried used tare are equivalent.

c. Franks/Hot Dogs. - A gray area of 2-1/2% of the labeled weight is to be applied when wet tare tests are conducted.

d. Fresh Poultry. - For net weight determinations only, fresh poultry is defined as poultry above 26 °F. This is product that yields or gives when pushed with a person's thumb. A gray area of 3 percent of the average

labeled weight of the sample is to be applied to raw, fresh poultry in retail packages when wet tare tests are conducted.

3.18.3. Procedure

a. Field Equipment. - Use Scales and Weights recommended in Section 3.1.

b. Report Forms. - Use either the Standard Pack-Weight Only-Report Form (page A-2) or the Random Pack Report Form (pages A-3 and A-4). Record the official establishment number from the USDA logo in the space provided underneath name and address.

c. Selection of Lots. - Refer to Section 2.3. for defining and selecting the inspection lot. The lot codes are the packer's own identifying marks, not the universal product code (UPC). In many instances, the lot code may be represented by a "pull" or "sell by" date. Record the lot code on the report form.

d. Sample Size. - Select the sample according to the size of the inspection lot following a Category A sampling plan (Table 2-2, page B-3). Do not sort random-pack packages from lightest to heaviest as recommended in Section 3.8.1., step 2.

e. Tare. Select the tare sample as given in Table 2-2.

(1) Unused or Dried Used Tare. - Unused tare material is rarely available at retail or wholesale locations for lots packaged at Federally-inspected plants. The tare weights printed on the shipping containers may not be accurate. Therefore, it is necessary for the inspector to reconstruct an unused tare weight by drying the used tare and weighing it. If the tare is composed of nonabsorbent materials, it can be cleaned and wiped in order to obtain a "dried used tare." The following technique should be followed to get "dried used tare" when absorbent materials are involved. Absorbed fats as well as absorbed water-based fluids must be dried out of these materials:

A fresh poultry package will be used as the example.

Shrink Wrap. - Open package shrink wrap, remove wrinkles from heat-seal area as much as possible, and wipe or pat dry with paper toweling or other suitable material. These procedures can be considered the model for how to clean any nonabsorbent tare materials.

Tray. - If tray is foam or plastic, rinse tray and wipe or pat dry. If tray is paper or cardboard, pat dry between sheets of toweling and lay tray on heating element of prepack scale or heat in microwave oven to dry.

Depending on the power of the oven, total times between 2 and 5 minutes may be necessary. Frequent short bursts of power (30-sec intervals), checking after each cycle, are better than a single 5-minute run. (The trays can burn if the drying cycle is too long.) The tray should be cool and dry to the touch before final weighing.

Soaker Pad. - Many soaker pads are composed of plastic sheets laminated with fibrous paper tissue. Peel the plastic sheeting away from the tissue (if possible), press the tissue between sheets of paper toweling, then dry the tissue on the heating element of the scale or in a microwave as described above for a paper tray. Wipe or pat the plastic sheeting dry and weigh it with the cooled tissue pad, tray, shrink wrap, and label. Do not attempt to rinse soaker pads--they will often disintegrate if loaded with water.

Depending on the surface area of the microwave oven tray and the size of the soaker pads, do not load more than two to five tare pads in a microwave at one time and do not stack them. Stacking or loading too many pads at one time will take more oven time and power, increasing the possibility of burning or charring the pads.

(a) What a package should weigh using unused or dried used tare. - Add the average "dried" tare weight (ADTW) to the labeled net weight (LNW) to

determine what the package is supposed to weigh--the "nominal gross weight" (NGW):

$$ADTW + LNW = NGW$$

(b) Package errors using unused or dried used tare. - Use the package checking scale to compare the gross weight of the packages in the sample (PGW) with the nominal gross weight (NGW). A package that weighs more than the nominal gross weight is overweight and has a "plus" package error (PE); a package that weighs less than this is underweight and has a "minus" package error.

$$PE = PGW - NGW$$

Go to Section 3.18.3.f. on the average requirement.

(c) Packages opened for tare determination may be rewrapped by the supermarket provided that the USDA logo does not appear on the package. The supermarket should contact the original packager if it intends to leave the brand name on the product when repackaging.

(2) Wet Tare.

(a) When there is no free-flowing liquid or absorbent materials in contact with the product, clean the tare materials of all clinging product and wipe dry. Weigh the wiped tare materials for the number of packages indicated in the sampling plan. Average the tare weights. Add the average tare weight (ATW) to the labeled net weight (LNW) to obtain the nominal gross weight (NGW):

$$ATW + LNW = NGW$$

Use the nominal gross weight (NGW) to compare with the gross weights of all the packages in the sample (PGW) to determine their package errors (PE):

$$PGW - NGW = PE$$

(b) Determining the net weight when there is free flowing liquid or absorbent packaging materials in contact with the product. - All free liquid is part of the wet tare. To avoid destroying too many packages:

- (i) gross weigh two packages to be opened for tare, then
- (ii) weigh solids inside;
- (iii) get wet tare by subtracting solids weight from gross weight.

(iv) $AWTW + LNW = NGW$

where: $AWTW$ = Average wet tare weight
 LNW = Labeled net weight
 NGW = Nominal gross weight

Use the alternative tare procedure (Section 2.11.4.) to determine whether to open more packages (i.e., whether the tare is too variable).

Packages opened for a wet tare test may be rewrapped by the supermarket provided that the USDA logo does not go on the package. The supermarket should contact the original packager if it intends to leave the brand name on the product when repackaging.

(c) **Determining Package Errors.** - If individual package net weights are measured:

$$PE = PNW - LNW$$

where: PE = Package error
 PNW = Package net weight
 LNW = Labeled net weight

A package that weighs more than the labeled weight is overweight and has a "plus package error". A package that weighs less than the labeled weight is underweight and has a "minus package error".

If an average tare weight and nominal gross weight are determined:

$$PE = PGW - NGW$$

where: PE = Package error
 PGW = Package gross weight
 NGW = Nominal gross weight

f. **The Average Requirement.** - Compute the average error for the sample. Sum all individual package errors and divide by the number of packages in the sample. Record the average package error in box 18 on the standard pack report form or box 20 on page 2 of the random pack report form.

If the average error is zero or plus, the lot complies with the average requirement. If the average error is minus, first compute T¹. (See Section 2.7. in this handbook and Chapter 6 of the Inspector's Manual in Module 10 for further instructions if this procedure is unfamiliar to

you.) Record T on the report form, and continue with subsections (1), (2), or (3) below as appropriate.

(1) **Unused or Dried Used Tare for Bacon, Sausage, Luncheon Meats with No Free-Flowing Liquid or Absorbent Materials..** - If the average minus error is larger than T, the lot does not comply with the average requirement; enforcement action should be taken. Also, follow the process outlined in Section 3.18.3.g.

(2) **Wet Tare - Fresh Poultry.**

(a) Compute 3% of the average labeled weight.

$$\text{average labeled weight} \times 0.03 = \text{gray area}$$

There is space below column 8 of the Random Pack Report Form to compute the average labeled weight of the sample.

(b) Record this in the comments section as "gray area."

(c) If T was computed, add the gray area to T, calculated and recorded on page 2 of the random pack report form. Record in remarks section as "gray area + T".

(d) Compare value in box 20 with "gray area + T".

(e) If the value in box 20 is larger than the "gray area + T", the lot fails to comply. (Since box 20 will always have a minus value--or else you would not have calculated T--disregard the sign when comparing with gray area + T.) If the value in box 20 is between T and the gray area + T, go to Section 3.18.3.h. If the value in box 20 is less than T, the lot complies.

(3) **Wet Tare - Hot Dogs or Franks.**

(a) Compute 2-1/2% of the labeled net weight recorded in box 1 of the standard pack report form.

$$(\text{value in box 1}) \times 0.025 = \text{gray area (lb or oz)}$$

(b) Convert to dimensionless units by dividing by the unit of measure in box 2.

$$\begin{aligned} &\text{gray area (lb or oz)} \div \text{box 2} \\ &= \text{gray area (dimensionless units)} \end{aligned}$$

Record this in comments section as "gray area".

¹Unless the lot is so small that the inspector is testing all packages in the lot (100% test). If this is the case, and the average error is minus, the lot fails if it is a dried used tare test; the lot may be in the gray area if it is a wet tare test.

(c) Continue with (c), (d), and (e) as for Subsection (2), Wet Tare - Fresh Poultry.

g. The Individual Package Requirement. - Table 2-12 gives the limits for individual package errors for packages produced at Federally-inspected plants. Use this table instead of Table 2-8 for looking up the MAV. The number of individual minus package error permitted to be larger than the "lower limit for individual weights" (see the righthand column of this table) is given in Table 2-2 (page B-3). Convert this value (or values if a random pack lot falls between groups) to dimensionless units and record on the report form.

(1) Dried Used Tare or No Free-Flowing Liquid. When conducting a dried used tare test or testing bacon, sausage, or luncheon meats with no free-flowing liquid or absorbent tare materials, compare the value(s) from Table 2-12 (converted to dimensionless units) with the minus package errors. If the number of minus package errors that exceed the limits of Table 2-12 is more than allowed by the Category A plan being followed, the lot does not comply.

Wet Tare. - When conducting a wet tare test on hot dogs or fresh poultry, the size of the gray area must be added to Table 2-12 value(s) before counting the number of packages that exceed the MAV. In Section 3.18.3.f. the size of the gray area (in dimensionless units) was recorded in the comments area of the report form. The values from Table 2-12 are recorded in boxes 10 and 11 on the random pack report form and box 4 on the standard pack report form. Add the size of the gray area to the value(s) from Table 2-12 (converted to dimensionless units) before comparing with the minus package errors.

If the number of minus package errors that are greater than (Table 2-12 + the gray area) exceeds the number permitted in Category A plans, the lot does not comply. If minus package errors fall between the Table 2-12 value and (Table 2-12 + the gray area), they place the lot in the gray area if the number of these types of minus package errors exceeds the number permitted in Category A plans.

h. What to Do When the Lot Is in the Gray Area. - Although the following discussion is intended primarily for those jurisdictions using wet tare for meat and poultry, any jurisdiction is encouraged to follow these procedures when product from Federally-inspected plants fails to comply with net weight tests.

The "Meat and Poultry Inspection Directory" is available from the USDA Regional Offices listed on the next page.

Meat and poultry packaging plants are listed by "establishment number". Use the establishment number on the package to look up the location and telephone number of the plant. A separate number is sometimes provided for the USDA Inspector-in-charge. If the establishment number is not listed in this directory (since new businesses, established after the directory was published, may not be listed in the directory), call the Regional Office to get the telephone number(s) of the plant and the appropriate USDA official for the plant in question.

Contact the appropriate USDA official to determine what information is available on the lot in question (see subsection (1) below). If a lot of hot dogs or fresh poultry has been tested using wet tare, any average package error that is minus and larger than T may place the lot in the gray area.

(1) Further Information. - Ask the USDA official:

(a) Whether the plant is operating under a "Total or Partial Quality Control Program" (TQC or PQC).

Some plants operate under a Federally approved "Total or Partial Quality Control Program". If such a program is in place, records on the lot in question will be maintained by the establishment, not by USDA. If the establishment is not operating under a TQC or PQC Program, USDA may or may not have tested the lot in question. The USDA official will be able to tell you what information he has, as compared with information that may be available from the plant personnel.

(b) What information is available from USDA concerning the particular lot in question.

- How many packages are tested at what time intervals?
- How many packages are produced in that time interval?
- What criteria are employed to decide when adjustments to the net weight are required?
- What were the net weight checks on the lot in question?
- What adjustments were made to the target weight?

If USDA has data on the specific lot in question or if there is an approved TQC or PQC program producing data on the lot, these data may serve to substantiate that the lot complied with net weight requirements when it left the plant. If data on the specific lot in question were not collected by USDA or under an ap-

USDA Regional Offices	States or Territories
Western Regional Office 620 Central Avenue, Bldg. 2C Alameda, CA 94501 415/273-7402	Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, Oregon, Utah, Washington, Wyoming, North Dakota, South Dakota, Samoa, and Guam
Southwestern Regional Office 1100 Commerce Street Dallas, TX 75242 214/767-9116	Arkansas, Kansas, Louisiana, Missouri, New Mexico, Texas, and Oklahoma
North Central Regional Office 607 E. Second Street Des Moines, IA 50309 515/284-4042	Illinois, Indiana, Iowa, Michigan, Minnesota, Nebraska, Wisconsin, and Ohio
Southeastern Regional Office 1718 Peachtree Street, NW Atlanta, GA 30309 404/881-3911	Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, West Virginia, Puerto Rico, and the Virgin Islands
Northeastern Regional Office 1421 Cherry St., 7th Floor Philadelphia, PA 19102	Connecticut, Maine, Maryland, Massachusetts, Delaware, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia, and the District of Columbia

proved QC program, the weights and measures test results are the only regulatory agency data on the lot. In this instance, the weights and measures authority should take whatever action is deemed appropriate; USDA has no data to dispute the weights and measures findings.

(c) What scale maintenance and testing program is in place in the plant.

(d) What tare verification system is in place in the plant, including how the tare is determined, how often it is monitored, how it is verified when new tare materials are delivered.

(e) What kind of net weight verification or testing (and how often) the USDA official conducts.

(f) Who are the establishment personnel to contact to review establishment-maintained records on the lot in question.

(2) Test Packages and Scales at the Packaging Plant.

-Optionally, make arrangements to visit the plant or call the weights and measures jurisdiction where the plant is located. Discuss the net weight control program with plant quality control personnel, check their scales (if

possible), and test packages. Even though it is not possible to test the lot in question at the plant, it may be possible to establish confidence in plant process and weight control procedures.

Note the type of scales used to monitor the fill weights of the packages. Ask to test the scales. (This may be disruptive during a production run.)

Test a sample of packages from the line or storage area using H-133 Category B sampling procedures plus the Table 2-12 values for individual packages. Since you are at the packaging plant and no distribution has occurred, there is no gray area to consider at this point. Due to the large number of packages in the lot when testing at the plant, the sample size will usually be 30 packages. Ask the USDA inspector if he or she will conduct a test using his procedures and equipment on the same lot.

(3) Other Optional Information That May Be Available from the Packer. - When testing at the packaging plant, this is the appropriate time (or it may be necessary to explore the issue by telephone) to get some optional information. The information below may be proprietary and not available to the inspector.

- How many packages are produced in a single production run? How much of the plant's production does each lot code represent (a single line's run, 8 hours/24 hours production, etc.)?
- What is the target weight for each label? How is this value set? (This will be considered confidential information.)
- What scales or other measuring equipment and procedures are used to measure or control the package net weights (checkweighers; line supervisor weighs a package every hour, etc.)?
- How quickly can adjustments be made to package fill targets that are found out of bounds?
- How often are the scales tested; who does the testing (yearly service call; quality control supervisor on a daily basis, etc.)?
- How does the plant determine the tare weight, how often does the plant change the tare weight, what does the plant do with tare information?
- (For example: actual tare unit used and changed whenever new shipment of tares sent; average weight to closest 0.01 lb is added to target weight; etc.)
- Does the packager report different tare weights to different areas of his market? (For example: wet tare values, unused tare values, something in between.) How are these determined?
- What variation in package weights from the labeled declaration does the line or plant normally encounter? (Ask them to show you or send copies of their records. These records are proprietary and may be available only for viewing.)
- What are the details of the PQC or TQC program if they are operating one? (Again, this may be proprietary information.)

BIBLIOGRAPHIC DATA SHEET

4. TITLE AND SUBTITLE

NIST Handbook 133, Third Edition, Supplement 2, "Checking the Net Contents of Packaged Goods"

5. AUTHOR(S)

Editors: Carroll S. Brickenkamp, Joan A. Koenig

6. PERFORMING ORGANIZATION (IF JOINT OR OTHER THAN NIST, SEE INSTRUCTIONS)

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10. SUPPLEMENTARY NOTES

☐ DOCUMENT DESCRIBES A COMPUTER PROGRAM; SF-185, FIPS SOFTWARE SUMMARY, IS ATTACHED.

11. ABSTRACT (A 200-WORD OR LESS FACTUAL SUMMARY OF MOST SIGNIFICANT INFORMATION. IF DOCUMENT INCLUDES A SIGNIFICANT BIBLIOGRAPHY OR LITERATURE SURVEY, MENTION IT HERE.)

Only minor additions and revisions to NIST (formerly NBS) Handbook 133, Third Edition, "Checking the Net Contents of Packaged Goods," were adopted by the Conference in 1991. A few editorial changes have also been made. This document consists of change pages to be added to Handbook 133, Third Edition, as amended by the 1990 Supplement.

12. KEY WORDS (6 TO 12 ENTRIES; ALPHABETICAL ORDER; CAPITALIZE ONLY PROPER NAMES; AND SEPARATE KEY WORDS BY SEMICOLONS)

Contents, net; Handbook 133; net contents; packaged goods; procedures for checking net contents of packaged goods; weights and measures procedures.

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